SECTION 08 5113

ALUMINUM WINDOWS

**********

LANL MASTER SPECIFICATION

When editing to suit project, author shall add job-specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the ESM Architectural POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within “stars” during editing.

Specification developed for ML-3 projects. For ML-1 / ML-2, additional requirements and QA reviews are required.

**********

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Extruded aluminum windows with [ fixed ] [ and ] [operating ] sash, factory glazed, [ with operating hardware and insect screens.]

B. Perimeter sealant

1.2 SYSTEM DESCRIPTION

A. Use windows with extruded aluminum sash sections, factory fabricated and factory glazed, vision glass, related flashings, anchorage and attachment devices.

B. Use fixed [or describe operation] windows.

1.3 PERFORMANCE REQUIREMENTS

A. Design and size components to withstand dead loads and live loads caused by positive and negative wind pressures acting normal to plane of wall, to a design pressure of 22 psf measured in accordance with ASTM E330.

B. Limit member deflection to flexure limit of the glass, with full recovery of glazing materials.

C. Accommodate, without damage to components or deterioration of seals, movement between window and perimeter framing, and deflection of header.

D. Limit air infiltration through assembly to 0.10 cfm, measured at a reference differential pressure across assembly of 6.24 psf as measured in accordance with ASTM E283.

E. No water leakage when measured in accordance with ASTM E331 with a test pressure of up to 12 psf.

F. Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to the exterior by a weep drainage network.

G. Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound.

1.4 SUBMITTALS

A. Submit the following in accordance with the requirements of Section 01 3300, Submittal Procedure.

1. Catalog data indicating component dimensions, anchorage and fasteners, glass, internal drainage details and certification of compliance with 1.3 Performance Requirements.

2. Shop drawings indicating opening dimensions, framed opening tolerances, affected related work, and installation requirements, if this information is not shown in the catalog data.

3. Warranty for replacement of insulating glass in case of seal failure, or interpane dusting or misting.

1.5 QUALITY ASSURANCE

A. Use products of a company that specializes in the manufacture of the products specified in this Section.

B. Use an installer that has successfully completed at least 10 projects of the size and scope of this project.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Do not install sealants when the temperature is less than the manufacturer's recommended minimum temperature for installation and curing.

PART 2 PRODUCTS

2.1 PRODUCT OPTIONS AND SUBSTITUTIONS

A. Alternate products may be accepted; follow Section 01 2500, Substitution Procedures.

2.2 MANUFACTURERS

A. Alenco - Series [ ]

B. Custom Windows - Series [ ]

C. Efco Corporation - Series [ ]

2.3 MATERIALS

A. Use extruded aluminum conforming to ASTM B221 with a chemical composition of 6063 and temper T5.

B. Use sheet aluminum conforming to ASTM B209.

C. Use stainless steel or galvanized steel fasteners.

2.4 COMPONENTS

A. Use frame materials with nominal dimensions of 2 inch wide by 3 1/2 inch deep, thermally broken, with interior section insulated from exterior; snap-on glazing stops.

B. If reinforced mullions are required, use standard thermally broken frame with internal steel member reinforcement.

C. Provide insect screens with frames made of formed aluminum with finish to match window frames, and FS L-S-125 woven plastic mesh screen material with 14/18 mesh size.

D. Provide operable sash weather stripping of permanently resilient material, profiled to achieve weather tight seal.

2.5 GLASS AND GLAZING MATERIALS

A. Use double pane insulating glass, [1/2 inch thick] [1 inch thick] as specified in Section 08 8000, Glazing

B. Use glazing materials specified in Section 08 8000, Glazing.

C. Use sealant specified in Section 07 9200, Joint Sealants.

2.6 FABRICATION

A. Fabricate components with minimum clearance and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.

B. Accurately fit and secure joints and corners. Make joints flush, hairline and weatherproof.

C. Prepare components to receive anchor devices. Fabricate anchors.

D. Install fasteners and attachments to be concealed from view.

E. Prepare components with internal reinforcement for operating hardware.

F. Provide internal drainage of glazing spaces to exterior through channels and weepholes.

G. Install weatherstrip at operable units.

H. Fabricate sills from minimum 24 gage aluminum sheet, anodized to match window frames.

I. Factory glaze window units.

2.7 FINISHES

A. For aluminum window [and screen] frames use Class 1 dark bronze anodized finish.

B. Enamel operator and exposed hardware to match dark bronze anodized color.

C. Apply 1 coat of bituminous paint to concealed aluminum surfaces in contact with treated wood, cementitious, or other dissimilar materials.

PART 3 EXECUTION

3.1 INSPECTION

A. Verify dimensions, tolerances, and methods of attachment with other Work.

B. Verify wall openings and adjoining air and vapor seal materials are ready to receive Work of this Section.

3.2 INSTALLATION

A. Install window frames in accordance with approved shop drawings and manufacturer's installation instructions.

B. Install window assembly in accordance with AAMA 101.

C. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.

D. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.

E. Install sill.

F. Provide thermal isolation where components penetrate or disrupt building insulation.

G. Coordinate attachment and seal of perimeter air and vapor barrier materials.

H. Install operating hardware.

I. Install perimeter sealant in accordance with Section 07 9200.

3.3 ADJUSTING

A. Adjust hardware for smooth operation and secure, weathertight closure.]

3.4 CLEANING

A. Remove protective material from frame members.

B. Wash surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean and dry.

3.5 PROTECTION OF FINISHED WORK

A. Protect finished work from damage.

END OF SECTION

**********
Do not delete the following information:
**********

FOR LANL USE ONLY

This project specification is based on LANL Master Specification 08 5113 Rev 1, February 27, 2006.